## CLAIMS

1. A network node for transmitting a stream of prediction encoded video data (40) formed from at least one description transmission comprising:

at least one connection (22, 24, 26, 62, 64) to a network having a plurality of data channels; and

a bandwidth manager (28, 60) for selectively changing the number of description transmissions making up said stream of prediction encoded video data;

wherein at least one of the description transmissions after changing the number of description transmissions retains the same prediction encoding as at least one of the description transmissions before changing the number of description transmissions.

2. The network node of claim 1 having at least two connections (22, 24, 26, 62, 64) to a network and being configured as a gateway (28, 60).

3. The network node of claim 1 wherein:

said stream of prediction encoded video data (40) includes encoded I-frames, P-frames and B-frames interconnected by motion vectors ($k^B$, $k^P$) when transmitted as a single description, and the motion vectors for said B-frames are generated in relation to motion vectors of neighboring P-frames;

said bandwidth manager (28, 60) being adapted to convert B-frame motion vectors ($k^B$) to and from P-frame motion vectors ($k^P$);

wherein a stream of video data (40) in a single description having I-frames, P-frames and B-frames is converted to and from multiple descriptions (42, 44) having I-frames and P-frames.

4. The network node of claim 3 wherein the B-frame motion vectors ($k^B$) are generated with a correlation to P-frame motion vectors ($k^P$).

5. The network node of claim 4 wherein said B-frame motion vectors ($k^B$) correlate to neighboring P-frame motion vectors ($k^P$).

6. The network node of claim 1 wherein the number of descriptions are increased and the bandwidth manager (28, 60) includes means for generating at least one additional description.

7. The network node of claim 1 wherein the number of descriptions are decreased and the bandwidth manager (28, 60) includes means for merging at least two of said descriptions.

8. A data stream of prediction-encoded video data (40, 54) comprising:

at least one reference frame (I);

at least one first predicted frame (P) having a motion vector ($k^P$) referencing a previous frame;

at least one second predicted frame (B) having a motion vector ($k^B$) referencing a succeeding frame;

said motion vector ($k^B$) referencing a succeeding frame having a proportional relationship to said motion vector ($k^P$) referencing said previous frame.

9. The data stream of claim 8 including:

a plurality of reference frames (I);

a plurality of first predicted frames (P);

a plurality of second predicted frames (B);

said frames being organized and compressed in said stream to create a sequence of video (40, 54);

wherein said sequence may be divided into at least two sequences (42, 44; 51, 52) during transmission using the relationship of the first and second frame motion vectors ($k^P$, $K^B$).

10. The data stream of claim 8 wherein said second predicted frame (B) includes a motion vector ($k^B$) referencing a previous frame.

11. The data stream of claim 10 wherein said second predicted frame motion vectors ($k^B$) are adapted to convert to first predicted frame motion vectors ($k^P$) without decoding of said prediction encoded video data.

12. The data stream of claim 9 wherein:

said reference frame is an I-frame;

said first predicted frame is a P-frame;

said second predicted frame is a B-frame;

wherein said sequence of I-frame, P-frame and B-frames are adaptable to and from at least two sequences of I-frame and P-frame sequences using the relationship of B-frame and P-frame motion vectors.

13. The data stream of claim 9 wherein a first frame motion vector ($k^P$) converted from a second frame motion vector ($k^B$) corresponds to 1/(Q+1) of said motion vector referencing said previous frame to 1-1/(Q+1) of said motion vector referencing said succeeding frame, where Q is the number second frame motion vectors appearing in sequence between a pair of first frame motion vectors.

14. A method for multiple description conversion at gateways (41) comprising the steps of:

providing a description of video data (40) having I-frames, B-frames and P-frames in which motion vectors of said B-frames are generated in relation to said P-frames;

transmitting said description to said gateway (41);

dividing said description in multiple descriptions (42, 44) using the relationship of B-frames to P-frames; and

retaining prediction encoding from said description for at least one of the multiple descriptions.

15. The method of claim 14 wherein:

said dividing step includes organizing P-frames of said description into a first description and B-frames of said description into a second description such that P-frame descriptions remain intact;

creating P-frame motion vectors for said B-frames relying upon said relationship.

16. The method of claim 15 including merging said first and second descriptions (51, 52) back into a single description (54) at a second gateway (50).

17. The method of claim 16 wherein said dividing and merging steps are independent of a transmission source.

18. The method of claim 14 wherein said dividing step uses the relationship of B-frame motion vectors to P-frame motion vectors corresponding to a B-frame forward motion vector in 1-1/(M+1) proportion to a P-frame motion vector.

19. The method of claim 14 wherein said dividing step uses the relationship of B-frame motion vectors to P-frame motion vectors corresponding to a B-frame forward motion vector in 1/(M+1) proportion to a P-frame motion vector.

20. The method of claim 18 wherein said dividing step uses the relationship of B-frame motion vectors to P-frame motion vectors corresponding to a B-frame forward motion vector in 1/(M+1) proportion to a P-frame motion vector.